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Internal Docket No. PU030060

Remarks/Arguments

In the non-final Office Action dated October 31, 2007, it is noted that claims 25-46 are pending; that claims 25-28, 32-33, 38-39, and 42-43 stand rejected under 35 U.S.C. §103; that claims 29-31, 34-37, 40-41, and 44-46 have been objected to as being dependent from a rejected base claim; that the drawings submitted on August 31, 2006 have been objected to by the Examiner; and that claim 36 has been objected to for an informality related to its dependency.

By this response, claim 36 has been amended to change its dependency and Figure 1 has been amended. No new matter has been added.

Allowable Subject Matter

Claims 29-31, 34-37, 40-41, and 44-46 have been objected to as being dependent from a rejected base claim. It has further been stated that these claims would be allowable if rewritten in independent form including all the limitations of the base claim. Applicant's representative thanks the Examiner for identifying allowable subject matter in this application. At this time in view of the remarks presented below with respect to the applied references, it has been decided to defer without prejudice the amendment of these claims into independent form.

Objection To The Drawings

Objection has been raised with respect to Figure 1 of the drawings. As noted above, Figure 1 has been amended to include the legend "Prior Art". This amendment is believed to overcome the ground of objection. Withdrawal of the objection is respectfully requested.

Objection To Claim 36

Claim 36 has been objected to because of its dependency. The dependency of claim 36 has been amended to be from claim 35. This amendment is believed to overcome the ground of objection. Withdrawal of this objection is respectfully requested.

Cited Art

The following references have been cited and applied as prior art in the present Office Action: U.S. Patent 4,393,502 to Tanaka et al. (hereinafter referenced as "*Tanaka*")

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and U.S. Patent 6,961,388 to Ling et al. (hereinafter referenced as "Ling"). Applicant's representative thanks the Examiner for correcting the patent number listed for Tanaka in the present Office Action.

Rejection Of Claims 25-28 Under 35 USC §103

Claims 25-28 stand rejected under 35 U.S.C. §103 as being unpatentable over the admitted prior art of the instant application in view of Tanaka. This rejection is respectfully traversed.

Claim 25 is an independent apparatus claim from which claims 26-28 depend directly. Claim 25 calls, in part, for:

*transmitting the encoded program signal via a first transmission channel; and
transmitting the second program signal via a second transmission channel that is independent of the first transmission channel.*

Tanaka does not involve the use of multiple programs and Tanaka shows a completely architecture from that shown in Applicant's Fig. 1. The combination of Tanaka with the admitted prior art must be based on a suggestion or teaching for making such a combination to one of ordinary skill in the art. There is no teaching or suggestion that Tanaka should be modified other than the single transmission channel architecture shown and described in his patent. Without such a teaching or suggestion, the combination of these references cannot be made.

The admitted prior art is solely concerned with transmission over separate channels as shown in Figure 1 with reference identifiers, f1, f2, through fN. Tanaka does not teach, show, or suggest transmission of different programs over separate transmission channels as called for in the claimed limitations, reproduced above. Tanaka is concerned with encoding a single program of information to be recorded on a single track of a recording medium and then recovering that single track of information from the recording medium for reconstituting the original single program of information. Nowhere is Tanaka even remotely concerned with multiple programs or separate transmission channels. Instead, Tanaka teaches a single transmission channel architecture in which his encoded words are delayed with respect to each other to allow subsequent interleaving into a single serial bit stream. In fact, as shown in Figure 1, Tanaka breaks a single bit stream of sequential words into 2N words to be processed by his system. See *Tanaka at col. 5, lines 35-39 and 52-55.*

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Tanaka then reassembles those processed and encoded words back into the single bit stream as shown in Figure 7 and as described at several locations in his specification. *See, for example, Tanaka at col. 7, lines 4-12.*

Clearly, on the recording side; Tanaka teaches a system in which a single bit stream (Fig. 1, ref. 1) is disassembled on a word basis (ref. no. 3), then encoded to produce N+M outputs which are then reassembled into a single bit stream (Fig. 7) for transmission over a single channel and recording onto a single track (see col. 7). On the reproducing side, Tanaka teaches the inverse operation in which the recorded track of serially recorded words in their sequential transmission blocks is converted into parallel streams of words (see col. 7) that are decoded and processed to recover the original sequence of digital information words.

At col. 7, lines 29-33 of his patent, Tanaka makes it clear that the transmission block, composed of the encoded words, is transmitted as a single channel when he states that:

"The modulated transmission block, which now appears as a single channel (although not shown in FIG. 1) may be recorded in a single track on, for example, magnetic tape, or other record medium, by a stationary head PCM recorder."
[Emphasis supplied].

Also, see Tanaka at col. 7, lines 45-50. Tanaka further shows a transmission block in such a single channel format in Figure 7. With respect to this format and figure, Tanaka states that:

"If it is assumed that $K=55$, $D=16$ and $d=2$, then, for each transmission block #n ($n=-1, 0, 1, \dots, 55$), the data words $SW_0, SW_{12}, SP_{10}, SQ_{10}, SW_1, SW_{13}, SP_{11}$ and SQ_{11} which are produced by error correcting encoders 4A and 4B and which constitute each transmission block will be formed of odd and even information parity words as shown in the table illustrated in FIG. 6. For example, in transmission block #0, PCM words W_0, W_{62}, W_{219} and W_{281} , together with parity words $P_{128}, Q_{168}, P_{347}$ and Q_{387} are transmitted. Together with these data words, a suitable CRC code word and a synchronizing word also are transmitted. All of these words are transmitted serially-by-word for recording on a suitable record medium. FIG. 7 represents the serially-transmitted words which constitute transmission block #0 ($n=0$)."
[Emphasis supplied].

Tanaka does not transmit the various encoded word outputs, shown in Fig. 4 as being output from the encoders 4A and 4B, on separate transmission channels independent from

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each other, as defined in claim 25. Tanaka simply packs all the encoded words together by interleaving them onto a single channel for transmission.

For all the reasons set forth above, it is submitted that the combination of Tanaka with the admitted art is improper and cannot result in an operable combination as proposed in the present Office Action.

In light of the remarks above, it is believed that claim 25 and the claims dependent thereon would not have been obvious to a person skilled in the art upon a reading of Tanaka with the admitted art. Therefore it is submitted that claims 25-28 are allowable under 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

Rejection Of Claims 32-33, 38-39, and 42-43 Under 35 USC §103

Claims 32-33, 38-39, and 42-43 stand rejected under 35 USC §103 as being unpatentable over Ling in view of Tanaka and the admitted prior art of the instant application. This rejection is respectfully traversed.

While the rejection of the claims is said to be made with respect to the combination of Ling, Tanaka, and the admitted prior art, it is noted that no application of teachings from the admitted prior art is disclosed in this rejection on pages 5-7 of the present Office Action. It is therefore believed that the rejection on this proposed combination of references fails to state a prima facie case of obviousness. Therefore, it is submitted that this rejection should be withdrawn.

Claims 32, 38, and 42 all call, in part, for receiving a first encoded program signal from a first transmission channel and for receiving a second program signal from a second transmission channel, wherein the second transmission channel is independent of the first transmission channel.

In the present Office Action at page 5, it is stated that, with respect to claim 32, Ling does not specifically teach:

decoder, coupled to the plurality of receivers, for processing a first encoded program signal received from a first transmission channel using a first function and a second program signal received from a second transmission channel, which is independent of the first transmission channel, to thereby decode the first program signal.
[Emphasis supplied].

The Office Action goes on at page 6 to explain that this stated deficiency in the teaching of Ling exists also with respect to claims 38 and 42.

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It is also important to note that Ling does not receive "a plurality of program signals" or even "an encoded program signal" and "a second program signal", as defined in the independent claims. Instead, Ling uses a plurality of transmit antennas to communicate with a plurality of receive antennas using the same signal in order to overcome the effects of fading through the use of a spatial diversity technique. Ling transmits one and the same signal from all his transmit antennas. Therefore Ling receives that same single transmitted signal at all of his receive antennas. Ling does not even teach two different signals in his system.

The deficiencies in the teachings of Tanaka with regard to the use of first and second transmission channels independent from each other have been discussed at length in the prior section of this response immediately preceding this section. Those remarks apply equally well here, but will not be repeated for the sake of brevity.

Even if the decoder of Tanaka is substituted into the system of Ling, an assumption with which Applicant neither agrees nor acquiesces, the resulting combination will still fail to meet the claimed limitations because the combination does not receive the first encoded program signal from the first transmission channel and the second program signal from the second transmission channel, wherein the second transmission channel is independent from the first transmission channel. The proposed combination would simply transmit and receive, via Ling's antennas, multiple copies of the same single serial bit stream of Tanaka's transmission blocks shown in his Figure 7.

In light of the remarks above, it is believed that independent claims 32, 38, and 42 and the claims dependent thereon would not have been obvious to a person skilled in the art upon a reading of Tanaka with the admitted art. Therefore it is submitted that claims 32-33, 38-39, and 42-43 are allowable under 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that all the claims pending in this patent application are in condition for allowance. Reconsideration of this application and allowance of all the claims are respectfully solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that

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the Examiner contact the applicants' attorney at (609) 734-6815, so that a mutually convenient date and time for a telephonic interview may be scheduled for resolving such issues as expeditiously as possible.

In the event there are any errors with respect to the fees for this response or any other papers related to this response, the Director is hereby given permission to charge any shortages and credit any overcharges of any fees required for this submission to Deposit Account No. 07-0832.

Respectfully submitted,

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Amendment to the Drawings

The attached one (1) sheet of drawings including Figures 1 has been amended to include the legend "Prior Art". This sheet replaces the correspondingly numbered sheet presently on file in this application.

Attachments:

Replacement Sheet 1